

MEG-MRI

Functional brain imaging reshaped

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The annual cost of brain disorders exceeds 800 billion euros in Europe alone. Functional brain imaging methods, such as magnetoencephalography (MEG), are used in their diagnosis and treatment. However, analyzing the brain activity greatly benefits from a patient-specific model of electrical structure. The structure can be estimated based on anatomical images from another source, but this process involves many sources of error and leads to a laborious workflow.

Approaching magnetic resonance instrumentation in unconventional ways, we have managed to combine two fundamentally incompatible imaging methods, MEG and MRI, into a single device that images brain activity and structure at once. This saves time, reduces errors and enables completely new kinds of brain research. MEG-MRI is expected to improve, e.g., planning of epilepsy treatments and diagnosis of brain tumors

SPARK VALUE: We expect the SPARK program to expand our networks, especially among potential customers. The feedback from the mentoring sessions will help us develop our strategy and guide in product profiling.



**Thomas
Lemström**

**Koos
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**Marko
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**Risto
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Research group leader **Koos Zevenhoven** has developed the technology for over a decade and is the world's topmost expert on the instrumentation and physics of this type of MRI.

Marko Havu is a product developer with entrepreneurial background. He manages the commercialization efforts.

Thomas Lemström is our business design advisor. His expertise is in strategy and roadmaps.

Professor **Risto Ilmoniemi** is the head of Department of Neuroscience and Biomedical Engineering at Aalto University and the founder and former CEO of Nexstim.